

Claims

1. Wire-guide/nozzle assembly (11, 13) for an electric arc welding torch, comprising at least one nozzle (11) for delivering gas and at least one wire-guide system (13) for guiding at least one consumable wire, characterized in that the downstream end (20) of the wire-guide system (13) runs into the nozzle (11).
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- 10 2. Assembly according to Claim 1, characterized in that the peripheral wall of the nozzle (11) has at least one cut-out (10) through which the wire-guide system (13) passes.
- 15 3. Assembly according to either of Claims 1 and 2, characterized in that the wire-guide system (13) is fastened to the nozzle (11).
- 20 4. Assembly according to one of Claims 1 to 3, characterized in that the axis of the wire-guide system (13) at its downstream end (20) and the axis of the nozzle (11) make, with each other, an angle between 10° and 70°, preferably around 15° to 45°.
- 25 5. Assembly according to one of Claims 1 to 4, characterized in that the wire-guide system (13) is hollow and of oblong general shape, preferably the wire-guide system (13) has the shape of a hollow tube, the internal diameter of which is between 0.6 mm and
30 2 mm.
- 35 6. Assembly according to one of Claims 1 to 5, characterized in that the wire-guide system (13) comprises a part (24) parallel to the axis of the nozzle (11) followed by a curved part (25), the said parallel part (24) and the said curved part (25) both being located outside the nozzle (11).

7. Assembly according to one of Claims 1 to 6, characterized in that the distance (D) separating the axis of the parallel part (24) of the wire-guide system (13) from the axis of the nozzle (11) is less than
5 30 mm.

8. Assembly according to one of Claims 1 to 7, characterized in that the nozzle (12) includes attachment means (17) for attaching it to a welding
10 torch, preferably the attachment means (17) comprise a thread provided on the outer peripheral wall of the nozzle (12).

9. TIG welding torch, which includes a wire-
15 guide/nozzle assembly (11, 13) according to one of Claims 1 to 8.

10. Torch according to Claim 9, characterized in that it furthermore includes a non-consumable electrode (12) placed relative to the wire-guide/nozzle assembly (11, 13) in such a way that the wire (14) conveyed by the wire guide (13) penetrates the nozzle (11), going towards the electrode (12) at an angle between 5° and 50°, preferably between 10° and 30°, to the axis of the
20 electrode (12) or of the nozzle (11), the wire (14) and the electrode (12) lying in one and the same plane.
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11. Torch according to either of Claims 9 and 10, characterized in that it furthermore includes a mounting (27) onto which the wire-guide/nozzle assembly (11, 13) is fitted in a predefined position (30).
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12. Robotic welding unit, comprising at least one robotic arm provided with a torch according to one of
35 Claims 9 to 11.